

appears to me to be intermediate between *Pica leucoptera* and *Pica rustica*, but varies greatly in the amount of white on the quills. Specimens from Transcaspiæ labelled *Pica bactriana* all had the tail less glossed with green and almost uniform in colour, whereas *P. rustica* has a distinct purple band at the end of it, but Persian specimens were intermediate as regards the coloration of the tail.

Scops Owls from Transcaspiæ, which Baron Loudon said he was going to describe as a subspecies and to name *Scops turanica*, differed but slightly from *Scops gin* in being less grey and more rufous in coloration. A female measured: culmen 1.1 in., wing 5.9, tail 3.0, tarsus 0.5.

Athene caucasica Zarudn. & Loud. differs from *A. bactriana* in having the upper parts darker, the head more clearly spotted, and the under parts more closely and boldly striped. *Astur cenchroides* differs very slightly from *Astur brevipes* in having a slightly longer and somewhat more barred tail.

I examined and took notes on several more species and subspecies in the collection, but will not weary the readers of this article by giving my notes *in extenso*. After leaving Liden and my hospitable host and hostess, I spent one day in seeing Riga, and then returned direct to England, *via* Eydtkuhnen and Berlin, having had a most enjoyable holiday.

XIV.—*On the Discovery of the Nest and Eggs of the Solitary Sandpiper* (*Totanus solitarius*). By the Rev. FRANCIS C. R. JOURDAIN, M.A.

As little has hitherto been recorded with regard to the breeding-habits of the Solitary Sandpiper (*Totanus solitarius*), perhaps a few details of the recent discovery of its nest and eggs may be of interest to English ornithologists.

Early in the year 1903 Mr. Walter Raine, of Toronto, engaged Mr. Evan Thomson to collect for him in Northern Alberta. At the close of the season Mr. Thomson's field-

notes were sent to Mr. Raine, and amongst them was a record of a clutch of Sandpiper's eggs which had been found in an old nest of *Turdus migratorius* in a tree. When the eggs arrived the first glance shewed that they were new to science. In appearance they much resembled the eggs of *Totanus ochropus*, but were considerably smaller. Writing to me on Oct. 9th, 1903, Mr. Raine stated his belief that the eggs would prove to be those of the Solitary Sandpiper, and several American oologists were of the same opinion. However, in the following year he again engaged Mr. Thomson's services, in the hope that another nest might be found and the parent bird secured. The following extract from Mr. Thomson's letter will shew that he was successful in his search:—"This season on June 9th I found another set of Solitary Sandpiper's eggs, this time in a Grackle's nest in a low tree. I blew the eggs and left them until next day, intending to return with my gun and shoot the bird, but on again visiting the nest I found the eggs gone; evidently the bird had removed them, as I saw no trace of egg-shells around. However, on the 20th of June [? 24th] I was still more fortunate, as I found another clutch and shot the parent bird as she flew from the nest, and secured the four eggs. This time the eggs were found in a Cedar-Waxwing's nest in a spruce-tree in a swamp or muskeg."

The following description of the nests and eggs is taken from Mr. Raine's paper in the 'Ottawa Naturalist,' vol. xviii. p. 135 (Oct. 20, 1904):—

"Set I. Taken in Northern Alberta, June 16th, 1903, four eggs advanced in incubation, collector Evan Thomson. This set was found in an old nest of the American Robin, built 15 feet up in a tamarac tree that was growing in the middle of a large muskeg dotted with tamaracs. The bird was flushed off the nest, but unfortunately not secured. The eggs are exceedingly handsome and very different from the eggs of any other American Sandpiper. The ground-colour is pale greenish white, heavily blotched and spotted, chiefly at the larger ends, with vandyke-brown, chesnut-

brown, and purplish grey. The average size of these four eggs is $1.36 \times .98$ in.*, and they are very large for the size of the bird.

“Set II. Northern Alberta, June 9th, 1904. Four eggs found in the nest of a Bronzed Grackle, built in a low tree; these eggs were unfortunately lost. . . .

“Set III. Northern Alberta, June 24th, 1904. Four eggs found in the nest of a Cedar-Waxwing, which was built in a small spruce-tree growing in a swamp, the nest being about 5 feet from the water. Mr. Thomson was fortunate in shooting the parent bird as she flew from the nest. Thus identification is very complete, and establishes the fact once for all, that the Solitary Sandpiper does not lay its eggs in a nest on the ground like other Sandpipers, but takes possession of the nest of other birds, built in trees, just the same as its Old-World representative the Green Sandpiper is known to do. The ground-colour of this clutch is also pale greenish white, and the eggs are spotted with purplish brown, vandyke-brown, and purplish grey, and average in size $1.36 \times .99$ in.† Thus it will be seen [that] they average larger than eggs of the Spotted Sandpiper, which measure about $1.34 \times .90$ in. Both clutches, with the skin of the parent Solitary Sandpiper, together with the nests, are now in my possession for the inspection of ornithologists.”

Mr. Raine has kindly forwarded a photograph of the two clutches side by side in the nests in which they were found. He tells me that the eggs are pyriform in shape and very handsome, excelling even those of the Yellowshank in beauty. They bear a family likeness to eggs of the Green and Wood-Sandpipers, as might be expected, but, like the birds themselves, the eggs are smaller than those of the two European species mentioned. It is interesting to note that the late Capt. Bendire, writing to Mr. Poynting, expressed his opinion that possibly, like *T. ochropus*, *T. solitarius* nested in trees, and that this might partly account for the eggs having hitherto escaped observation.

* Or, in millimetres, 34.6×25 .

† 34.6×25.2 mm.

The supposed eggs of this species described by Dr. T. M. Brewer (see Capen's 'Oology of New England,' pl. xix. fig. 6) and Dr. Clark ('The Auk,' Oct. 1898, p. 328) were found in nests on the ground, and do not in the slightest degree resemble those now recorded. It certainly is a most remarkable fact that the eggs of a bird of such wide distribution on the North-American Continent as *Totanus solitarius* should have so long escaped the observation of American naturalists, and the thanks of ornithologists are due to Mr. Raine for his enterprise in making them known.

XV.—*A Trip to the Forest of Marmora, Morocco.*

By E. G. B. MEADE-WALDO*.

IN the spring of 1902 an opportunity occurred of visiting the Forest of Marmora, in Northern Morocco. I had wished to make this excursion many times before, as I had seen the forest when passing from Mehedia to Rabat, but it had always been considered impossible, owing to the bad character of the inhabitants. However, we made friends with a certain Sheik who had considerable influence on the borders of the forest, and he said that if we would put ourselves under his protection he would see that we were not "carried off," but that we should have to be very careful. This Moor, by name Bourzama, treated us uncommonly well, but took such care of us that we were never out of his sight or that of his dozen attendants. Moreover, although we could go where we liked in the forest to search, we could not shoot in it for fear of letting the brigands know where we were. Indeed our Sheik would not even let us sit down to eat our lunch without holding our loaded guns across our knees. But, in spite of these little difficulties, we spent several most enjoyable and interesting days in the forest. I was able to collect a certain number of insects, and had also admirable opportunities of watching the habits of the magnificent

* For the author's previous notes on the birds of Morocco, see 'Ibis,' 1903, p. 196.